LPI® HVSC Plus

LPI's "High Voltage Shielded Cable" (HVSC Plus) is a purpose-designed, high-integrity, low-impedance cable that is used to safely convey lightning currents to earth with minimal risk of side flashing or structure electrification. The design of the HVSC incorporates carefully selected dielectric components to ensure optimum performance under the impulse or "transient" voltages and currents imposed by lightning discharges.

LPI's new HVSC Plus provides improved features as a dedicated insulated lightning down conductor:

- Double the voltage withstand performance of past versions;
- 35% reduction in the mass per unit length of the cable;
- Improved manufacturing consistency via a "triple extrusion" process;
- Reduced voltage stress via thin, semi conductive screen layers; and
- Improved material parameters and performance.

The design of the cable is based on the optimisation of all of the key parameters associated with dealing with lightning discharges and the subsequent voltage and current transients, including impedance, inductance, capacitance, insulation thickness (withstand voltage) and all of the relevant lightning statistics, plus practical aspects such as size, flexibility and mass.

The cable construction is shown in Figure 1.

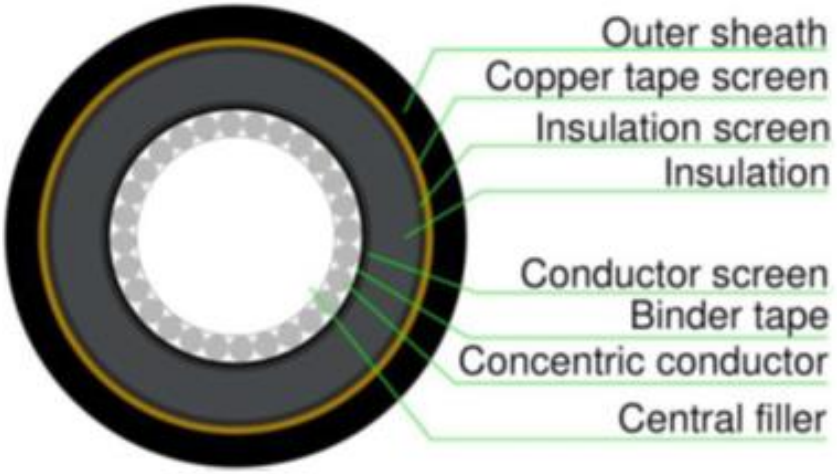

Figure 1: Construction of the HVSC Plus cable.

Product Ordering Code:	**HVSCPLUS-PM or HVSCPLUS-500**

Physical Specifications:

Mass per unit length	1.34 kg/m
Construction	Triple Extruded
Concentric Conductor Material	Aluminium
Concentric Conductor XSA	≥ 50 mm^2
Insulation	5 mm (nominal) of XLPE
Metallic Screen	Copper Tape
Outer Sheath	3 mm (nominal) of PVC
Cable Diameter	36 mm
Min. bending radius *before* installation	430 mm
Min. bending radius *after* installation	358 mm

Electrical Specifications:

Conductor DC resistance @ 20°C	0.641 Ω/km
Conductor DC resistance @ 90°C	0.821 Ω/km
Insulation Resistance @ 20°C	5000 MΩ
Inductance	93 nH/m
Capacitance	285 pF/m
Impedance	18 Ω
Withstand Voltage (1.2/50 μs impulse)	≥ 500 kV

HVSC Plus has been tested by a certified, independent high voltage laboratory located at Monash University, Australia. Test Report is available on request.

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